# Week 11: Specialty Drug Cost Analysis in Medicare Advantage Plans

## Objective:

This week focused on expanding our analytical workflow by integrating Tableau visualizations and calculating a new metric: number of prescriptions. The goal was to identify cost outliers and present our findings in a visually impactful manner.

## Tasks Completed:

1. 1. Dataset Cleaning and Column Renaming

- Cleaned and renamed complex column headers for better readability and visualization in Tableau.  
2. New Metric: Number of Prescriptions (2018–2022)

- Introduced a new column for each year (Num\_Prescriptions\_YYYY) calculated as:  
 Number of Prescriptions = Total Spending / Average Cost per Dose  
- This metric estimates drug utilization volume beyond just raw spending or dosage units.

1. 3. Visualization in Tableau

- Connected the cleaned CSV to Tableau and created several key visualizations:  
 • Line Chart: Spending trends for top 10 drugs from 2018 to 2022.  
 • Bar Chart: Average cost per dose (2022) sorted by brand name.  
 • Chart: Spending vs. number of beneficiaries (2022), with bubble size representing claims.  
 • Treemap: CAGR (Compound Annual Growth Rate) of cost per dose from 2018 to 2022.  
 • Bar Chart: Number of prescriptions (2022) using the newly created column.  
- These graphs revealed key insights:  
 • Trulicity had both high spending and wide beneficiary reach.  
 • Revlimid showed high spending despite relatively low patient count, indicating a high per-patient cost.  
 • Imbruvica, Xtandi, and Jakafi had the fastest-growing per-dose costs.

## Conclusion:

This week's work added a critical new metric and supported it with well-designed Tableau visuals. The addition of number of prescriptions bridged the gap between dosage and patient reach. Combined with CAGR and spending trends, the project now offers a multi-angle view into specialty drug economics under Medicare Advantage.  
  
Next steps involve:  
- Creating Tableau dashboards for storytelling.  
- Drafting a policy insights summary.  
- Linking graphs to strategy recommendations in our final report.